

10/591432

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE **10/591432**  
**10/591432** **01 SEP 2006**

Application Number : Unassigned Confirmation No.: Unassigned  
Applicant : Claus FROHBERG et al.  
Filed : September 1, 2006  
Title : PLANTS WITH INCREASED ACTIVITY OF MULTIPLE  
STARCH PHOSPHORYLATING ENZYMES  
TC/Art Unit : Unassigned  
Examiner: : Unassigned  
Docket No. : 65084.000022  
Customer No. : 21967

**Mail Stop Amendment**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, and in compliance with the duty of disclosure set forth in 37 C.F.R. § 1.56, Applicants submit herewith copies the references listed on the attached Form PTO-SB/08A (modified) for consideration and to be made of record herein by the U.S. Patent and Trademark Office in the above-captioned application.

This Information Disclosure Statement (IDS) is not to be construed as a representation that a search has, or has not, been conducted or that no better art exists. The filing of this IDS is not to be construed as admission that the information cited in the IDS is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

Consideration of the foregoing plus the prompt return of a copy of the enclosed Form SB/08A with the Examiner's initials in the left column in accordance with MPEP § 609 are respectfully requested.

In accordance with 37 C.F.R. § 1.97(b), this Information Disclosure Statement is believed to be submitted within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d); therefore, it is respectfully submitted that no fee is required for consideration of this information. However, if a fee is required, the

Patent Application Corresponding to PCT/EP2005/002457  
Attorney Docket: 65084.000022

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IAP5 Rec'd PCT/PTO 01 SEP 2006

Commissioner is hereby authorized to charge any fee, or credit any overpayment, to Deposit  
Account No. 50-0206.

Respectfully submitted,

HUNTON & WILLIAMS LLP

Dated: September 1, 2006

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DZB/tmf

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number

Unassigned

**10/591432**

Filing Date

September 1, 2006

First Named Inventor

Claus FROHBERG et al.

Art Unit

Unassigned

Examiner Name

Unassigned

Sheet

1 of 4

Attorney Docket Number

65084.000022

**FOREIGN PATENT DOCUMENTS**

*Examiner Initial	Cite No.	FOREIGN PATENT DOCUMENT		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TRANSLATION	
		Country Code Number-Kind Code (if known)					YES	NO
		WO	96/27674	09-12-1996	Institut Fur Genbiologische Forschung Berlin GmbH		<input type="checkbox"/>	<input checked="" type="checkbox"/>
		WO	97/11188	03-27-1997	Planttec Biotechnologies GmbH		<input type="checkbox"/>	<input checked="" type="checkbox"/>
		WO	00/77229	12-21-2000	Aventis Cropscience GmbH		<input type="checkbox"/>	<input type="checkbox"/>
		WO	02/34923	05-02-2002	Aventis Cropscience GmbH		<input type="checkbox"/>	<input type="checkbox"/>
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EXAMINER SIGNATURE

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)		Application Number	Unassigned <b>10/591432</b>
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		Art Unit	Unassigned
		Examiner Name	Unassigned
Sheet	2 of 4	Attorney Docket Number	65084.000022

## OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS

*Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
		Baunsgaard et al.; A novel Isoform of Glucan, Water Dikinase Phosphorylates Pre-Phosphorylated $\alpha$ -glucans and is Involved in Starch Degradation in Arabidopsis; The Plant Journal, 2005, Vol. 41, pp. 595 - 605; XP-002339143		
		Kötting et al., Identification of a Novel Enzyme Required for Starch Metabolism in Arabidopsis Leaves. The Phosphoglucan, Water Dikinase; Plant Physiology, January 2005, Vol. 137, pp. 242 - 252; XP-002339144	<input type="checkbox"/>	<input type="checkbox"/>
		Mikkelsen et al.; Functional Characterization of $\alpha$ -glucan, Water Dikinase, the Starch Phosphorylating Enzyme; Biochem Journal, 2004, Vol. 377, pp. 525 - 532; XP002339213	<input type="checkbox"/>	<input type="checkbox"/>
		Ritte et al.; The starch-related R1 protein is an $\alpha$ -glucan, water dikinase; PNAS; May 14, 2002; Vol. 99; No. 10; pp. 7166 - 7171	<input type="checkbox"/>	<input type="checkbox"/>
		Blennow et al.; Starch phosphorylation: a new front line in starch research; Trends in Plant Science; October 2002; Vol. 7, No. 10; pp. 445 - 450	<input type="checkbox"/>	<input type="checkbox"/>
		Tabata et al.; Studies on Starch Phosphate; Die Stärke/Starch; 1971; Vol. 23, pp. 267 - 272	<input type="checkbox"/>	<input type="checkbox"/>
		Blennow et al.; The distribution of covalently bound phosphate in the starch granule in relation to starch crystallinity; International Journal of Biological Macromolecules; 2000; Vol. 27, pp. 211 - 218		
		Blennow et al.; Starch molecular structure and phosphorylation investigated by a combined chromatographic and chemometric approach; Carbohydrate Polymers; 2000, Vol. 41, pp. 163 - 174		
		Jane et al., Phosphorus in Rice and Other Starches; Cereal Foods World, November - December 1996; Vol. 41; No. 11; pp. 827 - 832	<input type="checkbox"/>	<input type="checkbox"/>
		Lorberth et al.; Inhibition of a starch-granule-bound protein leads to modified starch and repression of cold sweetening; Nature Biotechnology; May 1998; Vol. 16, pp. 473 - 477; XP002111459	<input type="checkbox"/>	<input type="checkbox"/>

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<b>Sheet</b>	<b>3 of 4</b>	<b>Attorney Docket Number</b>	65084.000022

**OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS**

*Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
		Yu et. al.; <i>The Arabidopsis sex1 Mutant is Defective in the R1 Protein, a General Regulator of Starch Degradation in Plants, and Not in the Chloroplast Hexose Transporter</i> ; The Plant Cell; August 2001; Vol. 13, pp. 1907 - 1918; XP002252059	<input type="checkbox"/>	<input type="checkbox"/>
		Ritte et al.; <i>Compartmentation of the Starch-Related R1 Protein in Higher Plants</i> ; Starch/Stärke; 2000; Vol. 52; pp. 179 - 185	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Direct Submission</i> ; July 22, 2003; Y09533	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Expression and functional characterization of R1 in Escherichia Coli</i> ; February 26, 2001; AY027522	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Nucleic acid molecules from wheat, transgenic plant cells and plants and the thereof for the production of modified starch</i> ; December 20, 2002; AAN93923 and AR236165	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Nucleic acid encoding a starch R1 phosphorylation protein homolog from maize</i> ; December 18, 2003; AR400813 and AAR61444	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Compositions and methods for the therapy and diagnosis of prostate cancer</i> ; December 18, 2003; AR400184	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Nucleic acid encoding a starch R1 phosphorylation protein homolog from maize</i> ; December 18, 2003; AAR61445	<input type="checkbox"/>	<input type="checkbox"/>
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			YES	NO
		NCBI Sequence Viewer; <i>Nucleic acid encoding a starch R1 phosphorylation protein homolog from maize</i> ; December 18, 2003; AR400815	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Nucleic acid encoding a starch R1 phosphorylation protein homolog from maize</i> ; December 18, 2003; AAR61446	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>Effects of carbohydrate starvation on gene expression in citrus root</i> ; July 23, 2003; AY094062	<input type="checkbox"/>	<input type="checkbox"/>
		NCBI Sequence Viewer; <i>The Arabidopsis sex1 mutant is defective in the R1 protein...</i> ; August 24, 2001; AF312027	<input type="checkbox"/>	<input type="checkbox"/>
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